

Lesson **preparation book**

Computer & Information
Technology



First year of middle school
First semester

Prepared and designed by
Mahmoud Yassin Al-Shafei



Teacher data

Teacher Details

Personal Information:

- Full Name: _____ - Date of Birth: _____
- Gender: [☐] Male [☐] Female - Address: _____
- Email Address: _____ - Phone Number: _____

Educational Background:

- Highest Degree Earned: _____ - College: _____ University: _____
- Major Field of Study: _____ - Year of Graduation: _____

Work Experience:

- Years of Teaching Experience: _____ - Current School/Institution: _____
- Position: _____

Class schedule

	First per		Second per		Third per		Fourth per	
	۱	۲	۳	۴	۵	۶	۷	۸
Sunday								
Monday								
Tuesday								
Wednesday								
Thursday								

Total number of classes:
Teacher's signature

School principal's approval



Vision and Mission

Vision and Mission of ICT Teachers

Vision: “We envision a future where every student is empowered to succeed in the digital age. Our distinctive vision is to harness the power of Information and Communications Technology (ICT) to provide a transformative, high-quality education environment and nurture the leaders and innovators of tomorrow.”

Mission: “Our mission at is to revolutionize education by seamlessly integrating ICT into every aspect of learning. We are committed to:

1. **Promoting digital literacy:** We aim to equip our students with essential digital skills, ensuring their proficiency in using ICT tools and resources, thus preparing them for the evolving demands of the modern world.
2. **Providing quality education:** We are committed to providing a holistic education that not only focuses on academic excellence, but also nurtures creativity, critical thinking and problem-solving abilities, with ICT acting as an enabler in the learning process.
3. **Individualized learning:** We recognize that every student is unique. Our approach is to personalize education through adaptive technology, allowing students to progress at their own pace and in their own style, ensuring that no one is left behind.
4. **Global citizenship:** We aspire to develop responsible global citizens. By leveraging ICT, we facilitate global communication and cultural understanding, empowering our students to become ambassadors of tolerance and unity in an interconnected world.

Teacher



General objectives

General objectives of teaching the ICT curriculum for the first year of middle school

1. Understand the principles of green technology and its impact on sustainability and the environment.
2. Explore the concept of digital transformation and its importance in modern industries, focusing on how it drives efficiency and innovation.
3. Gain basic knowledge of operating systems, including their functions, types, and roles in managing hardware and software resources.
4. Learn how to install and remove software and digital accessories, ensure proper management of digital tools, and troubleshoot common problems.
5. Develop skills in using email as a professional communication tool, covering basic features such as organization, attachments, and security.
6. Understand cloud computing concepts and learn how to store, access, and manage data effectively using cloud platforms.
7. Master the use of Google Meet for virtual meetings and project management, with a focus on communication, collaboration, and productivity tools.
8. Learn the basics of database design, including key concepts such as data modeling, normalization, and creating effective databases.
9. Work with models and queries to collect and analyze data, and enhance skills in interacting with the database and creating reports.
10. Review the entire curriculum and apply the skills learned in a project-based environment, ensuring comprehensive understanding and readiness for practical application. These objectives ensure that learners gain theoretical knowledge and practical skills, preparing them for real-world applications of technology.



Specific objectives

Specific objectives for teaching the ICT curriculum

First year of middle school – first semester

By the end of the course, the student is expected to be able to:

- | | |
|--|---|
| <ul style="list-style-type: none">• Explain the concept of green technology.• Conclude the idea of how sensors work and their role in our lives.• Suggest the largest number of ideas for using green technology in our lives.• Discuss the various digital services provided by the Egyptian state.• Explain the tools of digital transformation.• Use one of the digital services to meet his needs.• List the types of operating systems (computers – mobile phones)• Differentiate between operating system interfaces.• Use one of the operating systems on a device (school – home)• Practice the steps to install and remove a program on the device.• Connect the peripheral devices (printer ..) to his computer.• Explain the steps to download files (compressed or via the Internet) to the device.• Explain the elements of e-mail.• Practice the steps to create an e-mail. | <ul style="list-style-type: none">• Discuss the services provided by e-mail in dealing with websites.• Explain the importance of cloud computing in accomplishing tasks.• Conclude the areas of use of cloud computing.• Practice uploading files to cloud computing and sharing them with colleagues.• Hold a meeting with colleagues via Google Meet.• Follow the correct procedures for digital communication with colleagues.• Share files with colleagues via Google Meet.• Explain the concept of big data.• Determine the difference between creating a table using different Office programs.• Create a simple spreadsheet on Access.• Explain the steps for implementing a form in databases.• Perform a query in the databases that he has implemented.• Use operations (add/hide a field from the query result)• Design one of the projects he is looking forward to. |
|--|---|

Strategy

Foresight

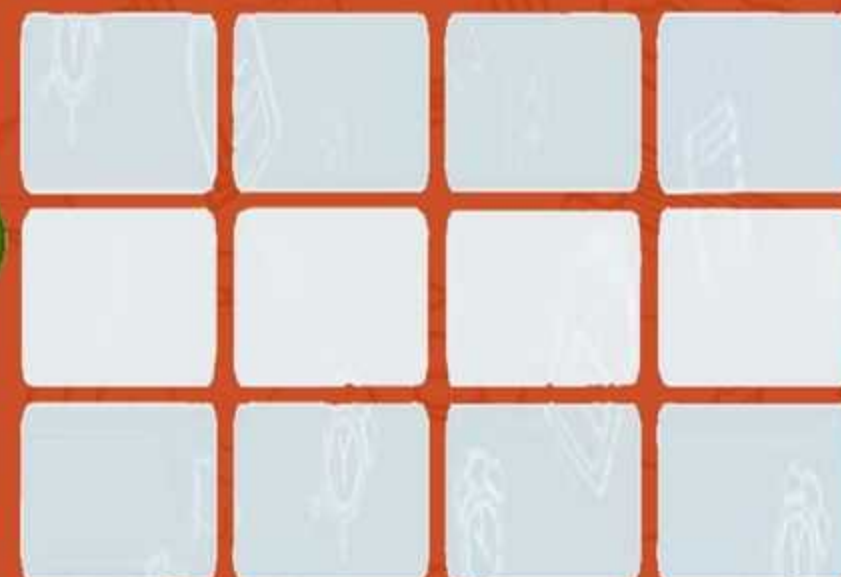
I know, I would like to know, I learned

Teaching aids

Presentation - Data Show - Interactive Whiteboard

Lesson one

Green Technology



Procedural objectives

At the end of the lesson, the student is expected to be able to:

- Explain the concept of green technology.
- Conclude the idea of how sensors work and their role.
- Suggest the largest number of ideas for using green technology.

Preparation"

What is the concept of green technology, and how does green technology contribute to maintaining a clean environment?

Lesson view

1. Definition of Green Technology:

- Also known as sustainable or clean technology.
- It aims to use technological tools that preserve the environment, reduce harm and conserve resources.

2. Electric Cars in Egypt:

- Egypt encourages electric cars to reduce harmful emissions and fuel consumption.
- Electric cars run on batteries and require external charging.

Areas of use

Water treatment



Waste management



Energy efficiency



Renewable energy



3. Benefits of Green Technology

- Environmental protection:

- Reduces carbon dioxide emissions and mitigates global warming.
- Electric vehicles help reduce pollution.

- Conserve resources:

- Sensors control the efficient use of water and electricity.
- Solar energy powers homes and businesses using photovoltaic panels.

4. Uses of sensors:

- Adjusting temperatures and controlling lights.
- Detecting smoke from fires for safety.

Evaluation - Self-review

Can you give an example of green technology in action (e.g. renewable energy, waste management, etc.)?

Assessment: Solve the book questions on page (9)

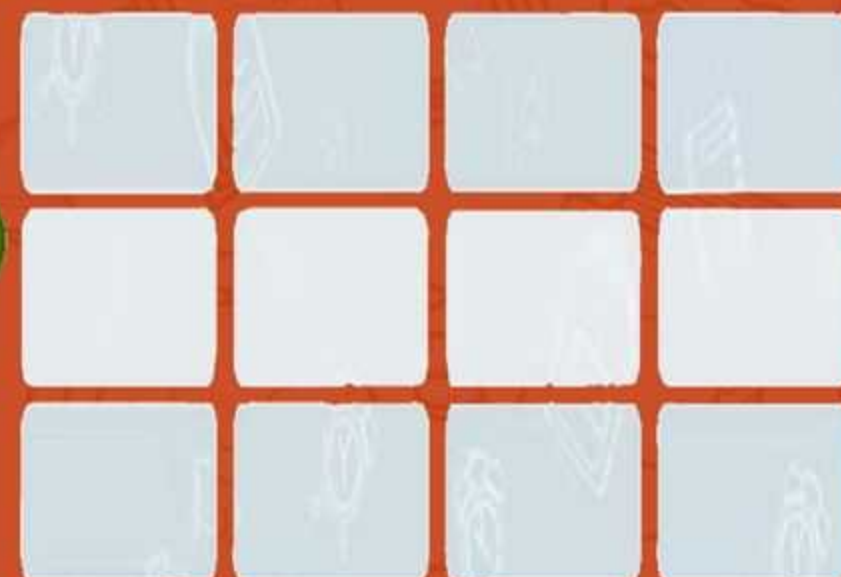
Strategy

- Dialogue and discussion
- mind maps

Teaching aids

- Data Show - Interactive Whiteboard
- Presentation

Lesson 2 Digital transformation and its importance in our daily lives



Procedural objectives

At the end of the lesson, the student will be able to:

- Discuss the various digital services provided by the Egyptian state.
- Explain the tools of digital transformation.
- Use the Digital Egypt platform to meet his needs.

Preparation"

What is meant by digital transformation? And what digital services does the Egyptian state provide to help you accomplish your daily tasks?

lesson view

1. Definition of digital transformation:

- Integrating digital technology into all aspects of work.
- Aims to improve efficiency, reduce costs and innovate products/services.

2. Digital transformation in Egypt:

- A national project to connect government agencies and provide services through the Internet and mobile applications.
- Aims to make services faster and easier for citizens to access.

3. The relationship between green technology and digital transformation:

- Resource efficiency: reduces the use of natural resources and waste (e.g., efficient technologies).
- Reducing emissions: uses renewable energy and improves energy efficiency.
- Sustainability: enhances environmental protection and quality of life.

4. The importance of digital transformation

5. Digital transformation tools

6. Examples of green technology and digital transformation together



Let's review

Q: What is the concept of digital transformation, and what are some of the tools used in this transformation? Explain how digital transformation enhances efficiency and creativity in organizations.

Evaluation: Solve the book questions on pages (16-17)

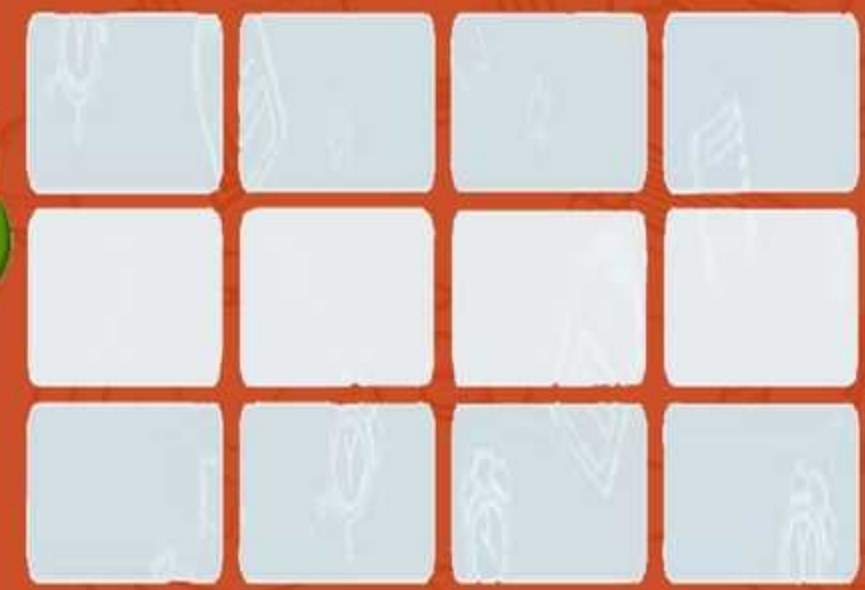
Strategy

Think, Pair, Share - Mind Maps

Teaching aids

Presentation, Data Show,
Interactive Whiteboard

Lesson 3 Operating Systems



Procedural Objectives

By the end of the lesson, the student will be able to:

- List the types of operating systems (computer - mobile phones)
- Differentiate between operating system interfaces.
- Use one of the operating systems on a device (school - home)

"Preparation"
How do digital devices
work - computers or
mobile phones?

Lesson view

Definition of Operating System: The operating system acts as a bridge between the user and the hardware and software, managing the hardware, running the software and helping the user perform tasks easily.

The operating system manages all of the following: (User interface - Security and protection - Memory - File system - Hardware)

Operating systems in modern devices:

1. **Personal computers (PCs):** Operating systems such as Microsoft Windows, macOS and Linux run on desktop computers and laptops.
2. **Mobile devices:** Smartphones and tablets use iOS (Apple) and Android (Google) operating systems.
3. **Servers:** Servers use Linux or Microsoft Windows Server operating systems to manage network resources.
4. **Game consoles:** PlayStation, Xbox and Nintendo Switch have dedicated operating systems for games.
5. **Smart TVs:** Android TV, Tizen and WebOS provide smart features and live streaming on TVs.
6. **Wearable devices:** Smart watches and fitness trackers use dedicated operating systems.
7. **Network devices:** Routers and switches use operating systems to manage networks.
8. **Automotive Systems:** Cars use operating systems for entertainment, navigation, and driver assistance.
9. **Embedded Systems:** ATMs and point-of-sale (POS) devices use operating systems to perform secure transactions.
10. **Industrial Control Systems (ICS):** These systems control machines and processes in industries such as energy, transportation.

Operating System Desktop Interface: The desktop (opening screen) includes icons that represent program and system settings (such as date, time, sound, and network). The layout and appearance of the desktop varies depending on the operating system and its version.

Let's review

Mention five modern or smart electronic devices and mention the operating system used in them, explaining the most important function of each operating system.

Evaluation: Solve the book questions, page (25)

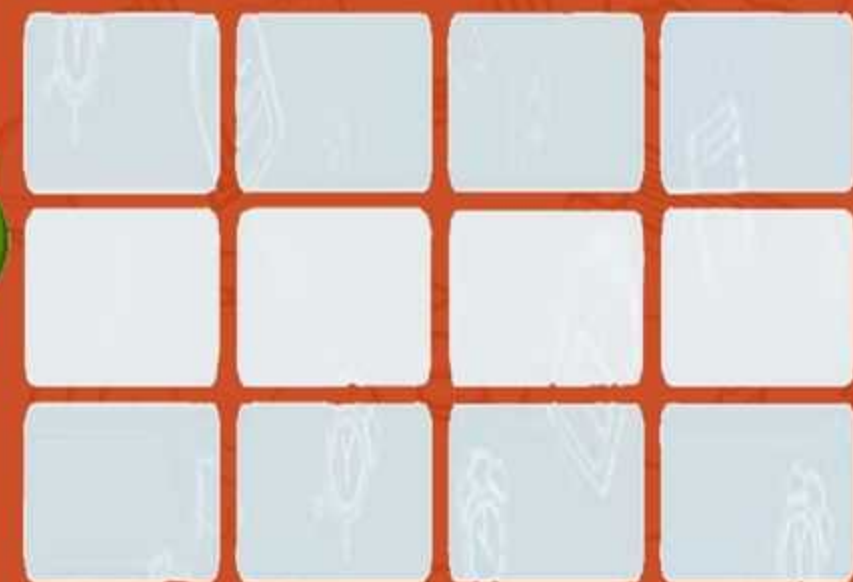
Strategy

- Cooperative Education
- Practical Application

Teaching aids

- Presentation - Interactive Whiteboard
- Data Show

Lesson 4 Installing and removing programs & devices (1)



Procedural objectives

By the end of the lesson, the student is expected to be able to:

- Practice the steps to install and remove a program on the device.
- Connect the peripheral devices (printer) to the computer.
- Explain the steps to download compressed files or online.

"preparation"

How can you add, install or remove a program on a computer or mobile phone?

View lesson

Stage 1: Installing and uninstalling programs

1. Preparing to install programs:

- Make sure that the necessary programs are available on the device or download them from the Internet or install them from an external storage unit.

2. Methods of installing programs:

- From a CD or DVD:
 - Insert the disc into the drive.
 - Click on "Run SETUP.EXE" and follow the installation instructions.
- From an online download:
 - Open the downloaded file and double-click to start the installation.



3. Dealing with compressed files:

- Decompress the file.
- Click on "SETUP.EXE" to start the installation and follow the instructions.



4. Uninstall programs:

- Use the uninstall feature built into the program or via the Control Panel.
- Go to Control Panel → "Uninstall a program" and select the program to remove.

Let's review

"After reviewing the first stage of installing and uninstalling programs, what steps might you have difficulty applying to your device?

solve the book's questions, page (37-38)

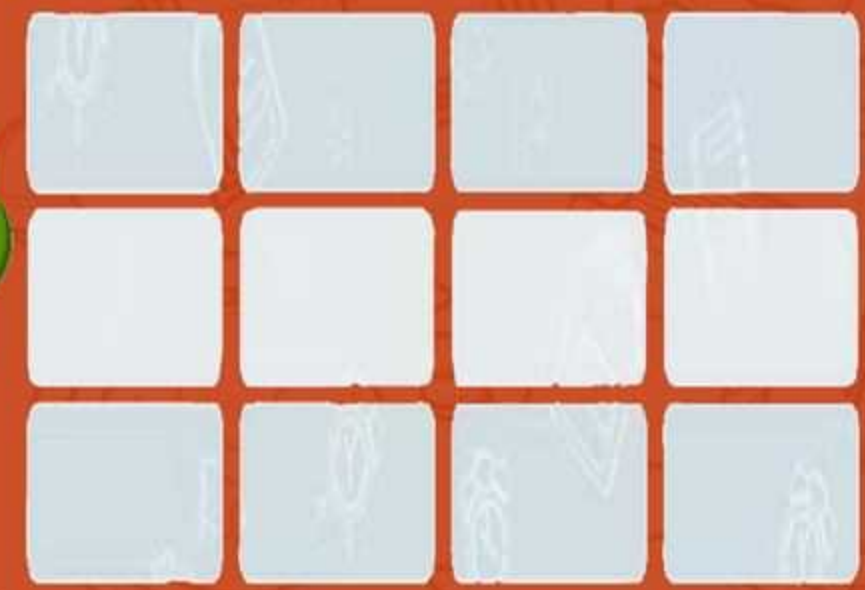
Strategy

- Cooperative Education
- Practical Application

Teaching aids

- Presentation - Interactive Whiteboard
- Data Show

Lesson 4 Installing and removing software & devices (2)



Procedural objectives

By the end of the lesson, the student is expected to be able to:

- Practice the steps to install and remove a program on the device.
- Connect the peripheral devices (printer) to the computer.
- Explain the steps to download compressed files or online.

" preparation "
How can you add, install
or remove devices on the
computer?

View Lesson

Stage 2: Installing and configuring devices

1. Preparing new devices:

- Modern operating systems automatically detect new devices and install the appropriate drivers for them.

2. Installing a device with Plug and Play technology:

- When the operating system has a suitable driver:
- The device is detected and the program is installed automatically without user intervention.
- When the operating system does not have a driver:
- The driver search wizard is launched, and you can locate it on a disk or external storage unit.

3. Installing the printer:

- Printers that support Plug and Play:
- Connect the printer via a USB port and the system installs it automatically.
- Printers that do not support Plug and Play:
- Go to Control Panel → "Hardware and Sound" → "Devices and Printers" to install the printer manually.
- If necessary, use "Windows Update" to update the driver.

Let's review

"After reviewing the second stage about installing and configuring devices, did you face any challenges in connecting a new device or installing drivers?

Solution to the book questions on page (39-40)

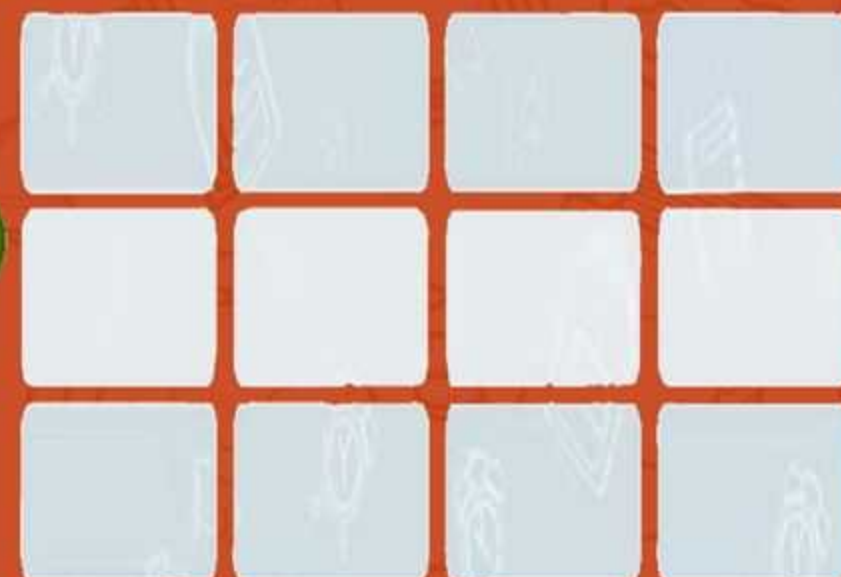
Strategy

- Cooperative Education
- Practical Application

Teaching aids

- Presentation - Interactive Whiteboard
- Data Show

Lesson Five Email (1)



Procedural objectives

By the end of the lesson, the student is expected to be able to:

- Explain the elements of e-mail.
- Practice the steps of creating e-mail.
- Discuss the services provided by e-mail in dealing with websites.

"preparation"
How can you
create your own
e-mail?

View Lesson

What is e-mail?

- E-mail is a digital communication system used to send and receive messages over the Internet.
- It is one of the cloud computing tools that allows users to share texts, files, images and other information.
- E-mail is one of the most popular and widely used means of communication in the world.
- It works as an indirect communication tool, and provides speed, ease and diversity.

Advantages of using email

Speed - Free - Ease of use - Diversity - Reliability - Digital services

Disadvantages of using email

Hacking - Spam - Fraud - Viruses - Privacy.

Email service providers : There are many free service providers such as:

- Gmail



- Yahoo Mail



- Hotmail/Outlook



Let's review

"After learning about the components of email, its advantages and disadvantages, how can email benefit you in your daily life?"

Solve the book's questions, page (52)

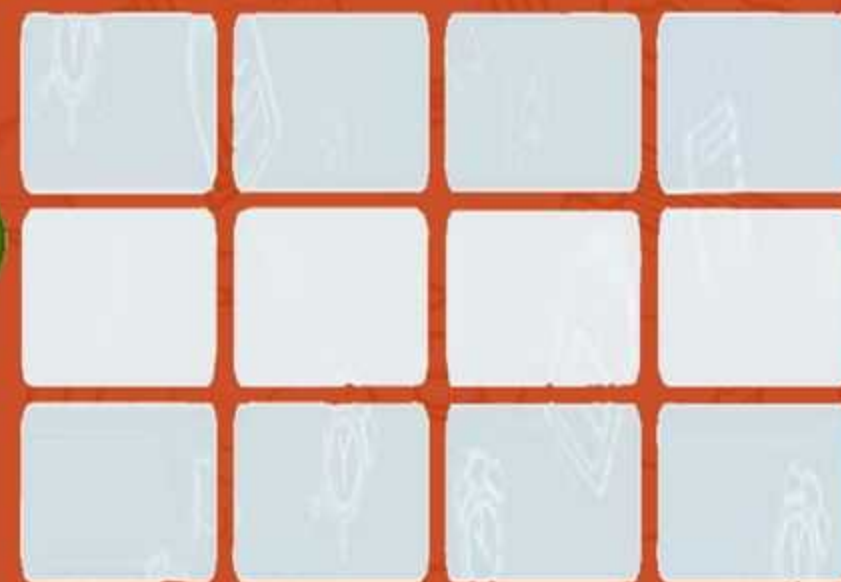
Strategy

- Cooperative Education
- Practical Application

Teaching aids

- Presentation - Interactive Whiteboard
- Data Show

Lesson Five Email (2)



Procedural objectives

By the end of the lesson, the student is expected to be able to:

- Explain the elements of email.
- Practice the steps of creating an email.
- Discuss the services provided by email in dealing with websites.

"preparation"
How can you
create your own
e-mail?

View lesson

Overview of the Google account

Google offers a variety of electronic services, and creating an email via Gmail also gives you access to other Google services such as YouTube, Google Drive, Google Docs, and Google Meet. A Google account consists of a username and password. Here are the steps to create an account.

Steps to create a Google account

1. Open the Google website: Go to (<https://www.google.com.eg/>).
2. Click on "Sign in": You will find the option in the upper right corner.
3. Choose "Create an account": and select "For personal use".
4. Enter the first and last name: Then click "Next".
5. Enter basic information: Enter your date of birth and gender.
6. Choose a username: Select a unique email address for your account.
7. Choose a password: Choose a strong password and enter it twice to confirm.
8. (Optional) Enter an alternate email: This is used to recover the account when needed.
9. Review and confirm: Check the data and read the terms of service, and if you agree, click "I agree".
10. Complete the process: Now your Google account is created and ready to use.

Using your Gmail account

Once the account is created, you can use your Google account to access Gmail and other services. To **customize the Gmail interface**:

- Change the interface language: Go to the Settings icon, then choose "See all settings", and in the "General" menu, you can change the display language for Gmail. For example, you can change it to Arabic.
- Sign out: To sign out of your Gmail account, click on the profile picture icon and choose "Sign out".

Let's review

"After following the steps to create a Gmail account, how can you benefit from a Google account to use services such as Google Drive and Google Meet in your academic or personal life?" Calendar: Solving the book's questions, page (53)